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| **What will we be learning?**AQA A-Level Water and Carbon Cycles | **Why this? Why now?**This unit also uses a ‘systems approach’ and so follows on from the Coastal Landscapes module. It builds on the knowledge of inputs, outputs and flows to introduce the idea of ‘spheres’ within Geography and the interactions between them. A key concept of this module is human activity such as urbanisation and the impact this has on water and carbon cycles, thus studying Contemporary Urban Environments previously is important. The idea of climate change is vital within the unit and students will develop knowledge they have gained at KS3 and KS4. | **Key Words:**AdaptationAfforestationAtmosphereCarbon Capture and StorageCombustionCryosphereDownwellingDrainage BasinEnhanced Greenhouse EffectEvapotranspirationGroundwaterInfiltrationInterceptionMitigationOPECOutgassingPercolationPhotosynthesisRespirationRiver RegimeSalinizationSequestrationThermohaline CirculationThroughflowUpwelling |
| **What will we learn?*** Water and Carbon as natural systems – inputs, outputs, stores, flows, dynamic equilibrium, positive and negative feedback
* The Water Cycle – distribution, drivers of change, drainage basin systems, water balance, flood hydrographs, natural variation and human impact
* The Carbon Cycle – distribution, drivers of change, carbon budget, natural variation and human impact
* Water, Carbon and Life on Earth – relationship between the cycles, feedback, implications for life on earth, human interventions designed to influence and mitigate
* Case Studies – Tropical Rainforest and River Catchment
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| **What opportunities are there for wider study?**Careers: * Environmental Agency
* Renewable Specialist
* Environmental Consultant

Documentaries:* Royal Institution 2020 Lecture Series
* David Attenborough – Climate Change The Facts

Wider Reading:* Andrew Davies and Garrett Nagel – The Water and Carbon Cycle Topic Master
* The Geographical – Available in the library
* Geography Review – Available in the library
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| **How will I be assessed?**Students will complete assessments throughout the topic including past paper questions e.g. 4, 6 and 20 markers. Students will then have an end of unit assessment from a past paper.End of Unit Assessment Objectives:* 4 mark question – AO1 (Knowledge and Understanding)
* 6 mark question – AO3 (Qualitative and Quantitative fieldwork skills)
* 6 mark question – AO1 and AO2 (Knowledge and Understanding, Application)
* 20 mark question - AO1 and AO2 (Knowledge and Understanding, Application)
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